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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 25 MAY 2004	
WIPO	PCT

Applicant's or agent's file reference M80497796:TJH:NHH:mh		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. PCT/AU2003/000449	International Filing Date (day/month/year) 15 April 2003	Priority Date (day/month/year) 17 April 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ B60P 1/64, 3/42, 3/33, 3/345; B60D 1/36; B62D 53/04, 63/08		
Applicant LUNSON, Lance Albert		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 7 sheet(s).

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 14 November 2003	Date of completion of the report 11 May 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer L. DESECAR Telephone No. (02) 6283 2381

I Basis of the report

1. With regard to the elements of the international application:*
- ☐ the international application as originally filed.
- ☒ the description, pages 5-9 as originally filed,
pages , filed with the demand,
pages 1-4 received on 16 April 2004 with the letter of 16 April 2004
- ☒ the claims, pages 13-14 as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 10-12 received on 16 April 2004 with the letter of 16 April 2004
- ☒ the drawings, pages 1/8-8/8 as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of
2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).
3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
4. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☒ the claim, Nos. 9
- ☐ the drawings, sheets/fig.
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be nonobvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos: 35-39

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claim Nos. 35-39

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

See Supplemental Box.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-34

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-8, 10-34	YES
	Claims	NO
Inventive step (IS)	Claims 1-8, 10-34	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-8, 10-34	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

Claims 1-8, 10-34 meet the criteria set out in the PCT Article 3(2)-(4), because none of the prior art documents teaches or fairly suggests an apparatus for a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mounted position relative to the vehicle and being detachable therefrom, the apparatus incorporating a drive means that includes a clamp to clamp onto a predetermined fixed portion of the load, the clamp comprising two clamping portions, one movable relative to the other between a released position and a clamping position, the clamp also being selectively movable in use on a vehicle, relative to the vehicle, to draw the load towards the mounted position and to move the load away from the mounted position on the vehicle. In an other embodiment drive means being activated upon the vehicle reaching a tripping position relative to the load and the drive means is operable to draw the load further towards the vehicle to the mounted position.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of IV.3.

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are two different inventions as follows:

1. Claims 1-8, 10-16 and 24-29 are directed to an apparatus for a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mountable position relative to the vehicle and being detachable therefrom, the apparatus involving the features as defined.
2. Claims 17-23 and 30-34 are directed to a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mountable position relative to the vehicle and being detachable therefrom, the vehicle assembly including respectively the apparatus as claimed in claims 1-8, 10-16 and 24-29.
3. Claims 35-39 are directed to a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mountable position relative to the vehicle and being detachable therefrom, wherein the vehicle is provided with a first guide means fixed to the vehicle and the load is provided with a second guide means fixed to the load to position the load in the mounted position relative to the vehicle, the guide means involving the features as defined.

In assessing whether these claims possess a single general inventive concept the International Search Authority concludes as follows:

- (a) Independent claims 1, 24 and 17, 30 respectively share the common features in relation to an apparatus having a driving means with the features as defined respectively. It is considered that unity exists *a priori* between the inventions defined in claims 1, 24, 17 and 30 since they possess the same special technical features.
- (b) Independent claims 1, 17, 24, 30 and claim 35 share the common features in relation to a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mountable position relative to the vehicle and being detachable therefrom. However these features are not novel for example in the light of the documents US 4314726 A (ARTWEGER et al.) 9 February 1982 and US 5967596 A (KNOOP) 19 October 1999. Consequently the common features are not a special technical features within the meaning of PCT Rule 13.2, second sentence, since they make no contribution over the prior art. Therefore the invention as defined in the claims 1, 17, 24, 30 and claim 35 lack unity *a posteriori*.

MOUNTING APPARATUS**REPLACED BY
ART 34 AMDT****Field of the Invention**

The present invention relates to a mounting apparatus for use in a vehicle assembly. In particular, although not exclusively, the invention relates to a
5 mounting apparatus to mount a motor home to a vehicle. However, the invention is not strictly limited in its application to motor homes and may be applied to any situation where it is desirable to secure an auxiliary body to a vehicle.

Background to the invention

Caravanning is a popular pastime. However, there are difficulties
10 associated with towing a caravan behind a vehicle. In particular, inexperienced drivers may find the articulated nature of the caravan and vehicle presents difficulties in manoeuvring the caravan, especially backwards. Furthermore, accessibility of a vehicle and a towed caravan may be limited. A popular alternative is a motor home. However, there are some distinct disadvantages
15 associated with motor homes too. For example, once a suitable campsite base has been selected, if it is further desired to explore in the vehicle away from the campsite, the whole motor home must be packed-up and the contents secured before the vehicle can be moved. This may be particularly inconvenient for small day trips from the campsite base. Another disadvantage is that the motor home
20 incorporates a whole vehicle which is not able to be used for other requirements.

It is therefore an object of the present invention to provide an apparatus which addresses the foregoing disadvantages or at least provides the public with a useful choice.

Summary of the invention

25 In accordance with a first aspect of the present invention, there is provided, an apparatus for a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mounted position relative to the vehicle and being detachable therefrom, the apparatus incorporating a drive means which is

selectively drivable to move the load away from the mounted position on the vehicle.

The apparatus is preferably slidably mounted to the vehicle and the apparatus is operable to overcome the frictional engagement between the load
5 and the vehicle. In a preferred form of the invention, the apparatus is also operable to secure the load in the mounted position.

In a most preferred form of the invention, the apparatus is also operable to draw the load towards the vehicle from a tripping position relative to the vehicle to the mounted position. A tripping means may also be provided to detect when the
10 load is in the tripping position. Preferably, the apparatus is operable to allow for the load to be partially mounted on the vehicle by driving of the vehicle, with the apparatus becoming operable to draw the load to the mounted position on the load reaching the tripping position relative to the vehicle.

The drive means is most suitably independent of the drive of the vehicle.
15 Where the invention operates to also secure the load to the vehicle, a single drive means may be provided to move the load away from the vehicle and to secure the load in the mounted position.

The apparatus preferably includes a clamp to clamp onto a predetermined fixed portion of the load, the clamp comprising two clamping portions, one
20 movable relative to the other between a released position and a clamping position, the clamp also being movable in use on a vehicle, relative to the vehicle. The clamp may be slidably relative to the vehicle. Furthermore, the clamp may be movable in the clamping position to move the load towards the mounted position. Preferably, the clamp is movable in the released position to move the load away
25 from the mounted position.

The two clamping portions of the clamp may comprise a forward clamping portion and a movable rearward clamping portion, the apparatus being such that when the rearward clamping portion is disposed in the released position and the predetermined portion of the load is moved adjacent to the forward clamping

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portion, the rearward clamping portion is driven by the drive means to be moved to the clamping position, whereupon the drive means moves the clamp and thereby the load to the mounted position. Furthermore, the apparatus may be operable such that when in the mounted position, selective operation of the drive means

5 causes the forward portion of the clamping means to move rearwardly and thereby move the predetermined portion of the load away from the mounted position on the vehicle.

In a most preferred form of the invention, the rearward clamping portion comprises a pivotally mounted toggle driven to rotate from the released position to

10 the clamping position, such that on being further driven, the clamp is moved forwardly. A biasing means may be provided to bias the forward portion of the clamp rearwardly.

In accordance with a second aspect of the present invention, there is provided a vehicle assembly comprising a self propelled vehicle and a load

15 mountable to the vehicle in a mounted position relative to the vehicle and being detachable therefrom, the vehicle assembly including the apparatus as claimed in any one of the preceding claims.

Preferably, the load comprises an accommodation unit. Alternatively, the load comprises a tray. The load may have a single axle and a plurality of struts to

20 support the load when detached from the vehicle.

In a preferred form of the invention, the vehicle is provided with a first guide means fixed thereto and the load is provided with second guide means fixed thereto to position the load in the mounted position relative to the vehicle wherein the first guide means is complementary to the second guide means. The guide

25 means may be tapered to facilitate positioning of the load relative to the vehicle. Furthermore, the first and second guide means preferably each comprise elongate members.

In accordance with a third aspect of the invention, there is provided an apparatus for a vehicle assembly comprising a self propelled vehicle and a load

mountable to the vehicle in a fixed mounted position relative to the vehicle and being detachable therefrom, the apparatus incorporating a drive means which is selectively drivable to draw the load towards the vehicle from a tripping position relative to the vehicle to the mounted position.

- 5 Any of the features described above in connection with the first and second aspect of the invention may have application to the third aspect set out above.

10 In accordance with a fourth aspect of the present invention, there is provided, a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mounted position relative to the vehicle and being
15 detachable therefrom wherein the vehicle is provided with a first guide means fixed thereto and the load is provided with second guide means fixed thereto to position the load in the mounted position relative to the vehicle, wherein the guide means are mutually cooperative to facilitate mounting of the load to the vehicle and the guide means are tapered to facilitate positioning of the load relative to the
20 vehicle, the first guide means being of complementary shape to the second guide means when in the mounted position.

25 The guide means may be of rectangular section and tapered in both dimensions of their cross-sections. Preferably, the first and second guide means each comprise a pair of spaced elongate members. In a preferred form of the invention, the members of the first guide means comprise bars of rectangular section and the members of the second guide means comprise channels, inwardly open.

 In a most preferred form of the invention, the members of the first guide means are mounted to an upwardly facing surface of a trailing portion of the
30 vehicle and the members of the second guide means is mounted to a downwardly facing surface of a leading portion of the load such that the leading portion of the load is mounted atop the trailing portion of the vehicle in the mounted position.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. Apparatus for a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mounted position relative to the vehicle and being detachable therefrom, the apparatus incorporating a drive means which is
5 selectively drivable to move the load away from the mounted position on the vehicle.
2. The apparatus as claimed in claim 1 wherein the load is slidably mounted to the vehicle and the apparatus is operable to overcome the frictional engagement between the load and the vehicle.
- 10 3. The apparatus as claimed in claim 1 or claim 2 being also operable to secure the load in the mounted position.
4. The apparatus as claimed in any one of the preceding claims being operable to draw the load towards the vehicle from a tripping position relative to the vehicle to the mounted position.
- 15 5. The apparatus as claimed in claim 4 further including tripping means to detect when the load is in the tripping position.
6. The apparatus as claimed in claim 4 or claim 5 wherein the apparatus is operable to allow for the load to be partially mounted on the vehicle by driving of the vehicle, with the apparatus becoming operable to draw the load to the
20 mounted position on the load reaching the tripping position relative to the vehicle.
7. The apparatus as claimed in any one of the preceding claims wherein the drive means is independent of the drive of the vehicle.
8. The apparatus as claimed in claim 3 wherein a single drive means is provided to move the load away from the vehicle and to secure the load in the
25 mounted position.

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9. The apparatus as claimed in claim 4 wherein the apparatus includes a clamp to clamp onto a predetermined fixed portion of the load, the claim comprising two clamping portions, one movable relative to the other between a released position and a clamping position, the clamp also being movable in use on
5 a vehicle, relative to the vehicle.
10. The apparatus as claimed in claim 9 wherein the clamp is slidable relative to the vehicle.
11. The apparatus as claimed in claim 9 or 10 wherein the clamp is movable in the clamping position to move the load towards the mounted position.
- 10 12. The apparatus as claimed in any one of claims 9 to 11 wherein the clamp is movable in the released position to move the load away from the mounted position.
13. The apparatus as claimed in any one of claims 9 to 12 wherein the two clamping portions of the clamp comprise a forward clamping portion and a
15 movable rearward clamping portion, the apparatus being such that when the rearward clamping portion is disposed in the released position and the predetermined portion of the load is moved adjacent to the forward clamping portion, the rearward clamping portion is driven by the drive means to be moved to the clamping position, whereupon the drive means moves the clamp and thereby
20 the load to the mounted position.
14. The apparatus as claimed in claim 13 being operable such that when in the mounted position, selective operation of the drive means causes the forward portion of the clamping means to move rearwardly and thereby move the predetermined portion of the load away from the mounted position on the vehicle.
- 25 15. The apparatus as claimed in claim 13 or 14 wherein the rearward clamping portion comprises a pivotally mounted toggle driven to rotate from the released position to the clamping position, such that on being further driven, the clamp is moved forwardly.

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16. The apparatus as claimed in claim 15 wherein a biasing means is provided to bias the forward portion of the clamp rearwardly.

17. A vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mounted position relative to the vehicle and being
5 detachable therefrom, the vehicle assembly including the apparatus as claimed in any one of the preceding claims.

18. The vehicle assembly as claimed in claim 17 wherein the load comprises an accommodation unit.

19. The vehicle assembly as claimed in claim 17 wherein the load comprises a
10 tray.

20. The vehicle assembly as claimed in any one of claims 17 to 19 wherein the load has a single axle and a plurality of struts to support the load when detached from the vehicle.

21. The vehicle assembly as claimed in any one of claims 17 to 20 wherein the
15 vehicle is provided with a first guide means fixed thereto and the load is provided with second guide means fixed thereto to position the load in the mounted position relative to the vehicle wherein the first guide means is complementary to the second guide means.

22. The vehicle assembly as claimed in claim 21 wherein the guide means are
20 tapered to facilitate positioning of the load relative to the vehicle.

23. The vehicle assembly as claimed in claim 21 or 22 wherein the first and second guide means each comprise elongate members.

24. Apparatus for a vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a fixed mounted position relative to the vehicle
25 and being detachable therefrom, the apparatus incorporating a drive means which is selectively drivable to draw the load towards the vehicle from a tripping position relative to the vehicle to the mounted position.

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25. Apparatus as claimed in claim 24 wherein the load is slidably mounted to the vehicle and the apparatus is operable to overcome the frictional engagement between the load and the vehicle.
26. Apparatus as claimed in claim 24 or 25 being also operable to secure the
5 load in the mounted position.
27. Apparatus as claimed in any one of claims 24 to 26 wherein the apparatus is operable to allow for the load to be partially mounted on the vehicle by normal driving of the vehicle, with the apparatus becoming operable to draw the load to the mounted position on the load reaching the tripping position relative to the
10 vehicle, and further including tripping means to detect when the load is in the tripping position, the drive means being operable in response to the tripping means.
28. Apparatus as claimed in any one of claims 24 to 27 wherein the drive means is independent of the drive of the vehicle.
- 15 29. Apparatus as claimed in claim 26 wherein a single drive means is provided to draw the load to the mounted position and to secure the load in the mounted position.
30. A vehicle assembly comprising a self propelled vehicle and a load mountable to the vehicle in a mounted position relative to the vehicle and being
20 detachable therefrom, the vehicle assembly including the apparatus as claimed in any one of claims 24 to 29.
31. The vehicle assembly as claimed in claim 30 wherein the load comprises an accommodation unit.
32. The vehicle assembly as claimed in claim 30 wherein the load comprises a
25 tray.
33. The vehicle assembly as claimed in claim 30 wherein a variety of load types is provided and the self propelled vehicle is able to be mounted with any of them.

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34. The vehicle assembly as claimed in any one of claims 30 to 33 wherein the load has a single axle and a plurality of struts to support the load when detached from the vehicle.

35. A vehicle assembly comprising a self propelled vehicle and a load
5 mountable to the vehicle in a mounted position relative to the vehicle and being detachable therefrom wherein the vehicle is provided with a first guide means fixed thereto and the load is provided with second guide means fixed thereto to position the load in the mounted position relative to the vehicle, wherein the guide means are mutually cooperative to facilitate mounting of the load to the vehicle
10 and the guide means are tapered to facilitate positioning of the load relative to the vehicle, the first guide means being of complementary shape to the second guide means when in the mounted position.

36. The vehicle assembly as claimed in claim 35 wherein the guide means are of rectangular section and tapered in both dimensions of their cross-sections.

15 37. The vehicle assembly as claimed in claim 35 or 36 wherein the first and second guide means each comprise a pair of spaced elongate members.

38. The vehicle assembly as claimed in claim 37 wherein the members of the first guide means comprise bars of rectangular section and the members of the second guide means comprise channels, inwardly open.

20 39. The vehicle assembly as claimed in any one of claims 35 to 38 wherein the first guide means is mounted to an upwardly facing surface of a trailing portion of the vehicle and the second guide means is mounted to a downwardly facing surface of a leading portion of the load such that the leading portion of the load is mounted atop the trailing portion of the vehicle in the mounted position.